

# Permit Fact Sheet

## General Information

Permit Number:	WI-0064653-03-0
Permittee Name:	WALTER & SON WASTE HAULING LLC
Address:	N3368 STATE RD 14
City/State/Zip:	DARIEN WI 53114
Discharge Location:	Approved sites in primarily Walworth County
Receiving Water:	Groundwaters of the State via landspreading in primarily Walworth County

## Facility Description

Walter & Son Waste Hauling (WSH) headquarters is located in Darien, Wisconsin (Walworth County). This facility provides short term storage and land application of industrial wastewater, industrial sludge, municipal sludge, and septage wastes (septic, holding tank, and grease interceptor wastes) for numerous municipalities, industries, and confidential clients. Currently, WSH has 61 fields (approximately 2400 acres) approved for the land application of industrial wastewater and combined waste. Sewage sludge (biosolids), septage, industrial sludge and industrial wastewaters are combined in WSH's Slurrystore #1. Industrial sludge and wastewaters are stored in WSH's Slurrystore #2. WSH's approved sites/fields are located in Walworth county.

Each site/field must comply with ss. NR 113.07, NR 204.07, NR 214.17, and/or NR 214.18 Wisconsin Administrative Code requirements for 1) separation distance from houses and wells, 2) separation distance from surface water and wetlands, 3) separation distance from bedrock and groundwater, and 4) soil permeability rate (sufficient to properly hold and treat the wastewater).

Winter time land application (frozen/snow covered soil) of ch. NR 214 Wis. Adm. Code wastewater is permissible for sites/fields meeting the above conditions and that have slopes less than 2% or on a case by case basis 2-6%, per ss. NR 214.17(2)(f) and 214.18(2)(f), Wis. Adm. Codes. Winter land application is permissible only from Outfall 005 (Slurrystore #2). No winter land application is permitted from WSH's Slurrystore #1 because it contains mixed wastes including municipal biosolids, septage/holding tank/grease trap wastes, and industrial wastes. No winter land application is permitted from WSH's municipal land application outfalls or Outfalls 002 and 006 (Cake Pads #1 and #2). When soil temperatures are above freezing, all land application is limited to slopes of 12% or less.

### Waste Types

This permit specifically categorizes the waste types into one of 7 categories, based on how closely the characteristics align with definitions outlined in ch. NR 113, ch. NR 204, and ch. NR 214, Wis. Adm. Codes. They are:

**Combined/Mixed wastes:** Some waste storage structures or outfalls have department approval to contain multiple types of waste. For example: Outfall 001 contains a mixture of sewage sludge (ch. NR 204, Wis. Adm. Code), septage (ch. NR 113, Wis. Adm. Code), industrial liquid wastes (s. NR 214.17, Wis. Adm. Code), and industrial liquid sludge (s. NR 214.18, Wis. Adm. Code). The permit provides WSH with flexibility regarding the volume of each approved waste type that is approved for each mixed waste storage structure. To ensure flexibility, this permit does not prescribe any specific ratios of industrial waste to sewage sludge or septage wastes in waste storage structures or outfalls.

**Industrial Liquid Sludge\*** (from s. NR 214.03(34), Wis. Adm. Code): "the accumulated solids generated during the biological, physical or chemical treatment, coagulation or sedimentation of water or wastewater." Process grease interceptor waste falls under this definition.

**Industrial Cake Sludge\*** (from s. NR 214.03(34), Wis. Adm. Code): “the accumulated solids generated during the biological, physical or chemical treatment, coagulation or sedimentation of water or wastewater.”

*\*NOTE: The distinction between “Industrial Cake Sludge” and “Industrial Liquid Sludge” is a function of the extent that the sludge has been dewatered. Generally speaking, if a sludge is able to be pumped, it is considered a liquid sludge. Conversely, if a sludge can be stacked, it is considered a cake sludge.*

*\*NOTE: Industrial (process) grease is generated from large-scale food production. Numerous meat and poultry processors generate industrial/process grease. Grease generated by the industrial food production process enters a grease interceptor installed in or connected to process pipes, not sanitary plumbing pipes. Non-domestic septage (including process grease) is regulated pursuant to ch. NR 214, Wis. Adm. Code. In addition, process piping is not regulated by the plumbing code; therefore, this waste is exempt from ch. NR 113, Wis. Adm. Code requirements. This waste is regulated as an industrial sludge pursuant to s. NR 214.18, Wis. Adm. Code.*

**Industrial By-Product Solids** (from s. NR 214.03(4), Wis. Adm. Code): “waste materials from the animal product or food processing industry including, but not limited to: remains of butchered animals, paunch manure and vegetable waste materials such as leaves, cuttings, peelings and actively fermenting sweet corn silage.”

**Industrial Liquid Waste** (from s. NR 214.03(27), Wis. Adm. Code): “process wastewater and waste liquid products, including silage leachate, whey, whey permeate, whey filtrate, contact cooling water, cooling or boiler water containing water treatment additives, and wash water generated in industrial, commercial and agricultural operations...”

**Sewage Liquid Sludge\*\*** (aka “municipal sludge” or “biosolids” --from s. NR 204.03(55), Wis. Adm. Code): “the **semi-solid or liquid** residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes scum or solids removed in primary, secondary or advanced wastewater treatment processes and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.”

**Sewage Cake Sludge\*\*** (aka “municipal sludge” or “biosolids” --from s. NR 204.03(55), Wis. Adm. Code): “the **solid** residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes scum or solids removed in primary, secondary or advanced wastewater treatment processes and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.”

*\*\*NOTE: The distinction between “Sewage Cake Sludge” and “Sewage Liquid Sludge” is a function of the extent that the sewage sludge has been dewatered. Generally speaking, if a sewage sludge is able to be pumped, it is considered a sewage liquid sludge. Conversely, if a sewage sludge can be stacked, it is considered a sewage cake sludge.*

**Septage\*\*\*** (from s. NR 113.03(55), Wis. Adm. Code): “means the scum, liquid, sludge, or other waste in any of the following: (a) A septic or holding tank, dosing chamber, grease interceptor, seepage bed, seepage pit, seepage trench, distribution cell, or other component of private onsite wastewater treatment systems. (b) A privy or portable restroom.” **Sanitary** grease interceptor waste falls under this definition.

*\*\*\*NOTE: Sanitary grease interceptor: a watertight receptacle designed to intercept and retain grease that enters the interceptor from sanitary plumbing in or from kitchens and restaurants. Sanitary grease contains human pathogens. See ch. NR 113, Wis. Adm. Code.*

### **Storage Structures**

WSH currently owns two above-ground slurrystores located in Walworth County (Slurrystore #1, Outfall 001, Slurrystore #2, Outfall 005). The current capacity is 4.8 million gallons. These tanks have been previously approved by the Wisconsin Department of Natural Resources in accordance with chs. NR 213 and NR 110, Wis. Adm. Code. Wastewaters from various industrial, municipal, and septage (septage, holding, and grease interceptor tanks) clients are mixed in Slurrystore #1, with Slurrystore #2 storing exclusively industrial waste (NR 214).

WSH has two cake storage pads, one that holds exclusively sewage cake sludge and potentially industrial cake sludge/by-product solids (Cake Pad #1: Outfalls 002 and 007), and one that stores commingled sewage cake sludge, industrial by-product solids, and industrial cake sludge, which is being constructed at the time of permit reissuance (Outfall 006).

WSH must submit plans and specifications to the Department for review and approval prior to any new tank or storage structure being used to store wastewater under this WPDES permit. Furthermore, in order to activate Outfall 007 (commingled industrial cake sludge/industrial by-product solids with sewage cake sludge from Cake Pad #1), WSH is required to submit as-builts or plans/specs which show the structure complies with the intent of ch. NR 214, Wis. Adm. Code.

Tank/ Pad	Outfall	Tank Type	Waste Stored	Capacity	TRS	Q/Q	Township	Manure Stored?
Slurrystore #1	001	Steel Glass Tank	NR 113, NR 204, NR 214	3.0 MG	2N, 15E, Section 21	SE1/4 SE/14	Darien	No
Cake Pad #1	002	Concrete Pad	NR 204, (NR 214 once approved)	1800 yd <sup>3</sup>	2N, 15E, Section 21	SE1/4 SE/14	Darien	No
Slurrystore #2	005	Steel Glass Tank	NR 214	1.8 MG	2N, 15E, Section 21	SW1/4 SE/14	Darien	No
Cake Pad #2	006	Concrete Pad	NR 204, NR 214	1450 yd <sup>3</sup>	2N, 15E, Section 21	SW1/4 SE/14	Darien	No

#### **Direct Land Application:**

In addition to permitting the discharge of wastes from storage structures, this permit also allows WSH the flexibility to land apply sewage sludge and industrial liquid waste directly from generators without first storing it. These outfalls can be found below.

#### **Permit Nomenclature:**

Within this permit, various acronyms are used to designate waste types by outfall. For example, Outfall 001 is shown as (M(R) + I + S). This means that this outfall is used for land application of , municipal (M) sewage sludge (non-radium containing), municipal sewage sludge which contains Radium (R), Industrial liquid waste/sludge (I), and Septage (S).

Additionally, the acronym 'DLA' within this permit means that the outfall is a Direct Land Application one, where waste isn't stored at WSH's facility prior to being land applied. 'PH' means Placeholder, indicating that, prior to activation, the permittee must obtain department approval.

# 1 Influent - Proposed Monitoring

## 1.1 Influent Sample Point Numbers

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)
708		Inflow to Storage of Liquid Industrial Wastewater from Bytec Confidential Client 620 (Industrial Liquid Waste).
709		Inflow to Storage of Liquid Industrial Wastewater from Bytec Confidential Client 622 (Industrial Liquid Waste).
713		Inflow to Storage of Liquid Industrial Wastewater from Bytec Confidential Client 665 (Industrial Liquid Waste).
714		Inflow to Storage of Liquid Industrial Wastewater from Grande Cheese (formally PGP International) (Industrial Liquid Waste).
715		Inflow to Storage of Liquid Industrial Wastewater from Bytec Confidential Client 625 (Industrial Liquid Waste).
717		Inflow to Slurrystore #1 of Liquid Municipal biosolids from Evansville WWTP (Sewage Liquid Sludge).
719		Inflow to Storage of Industrial Wastewater from Bytec Resource Management's Confidential Client 648 (Industrial Liquid Waste).
720		Inflow to Storage of Industrial Wastewater from Bytec Resource Management's Confidential Client 639 (Industrial Liquid Waste).
721		Inflow to Storage of Industrial Wastewater from Bytec Resource Management's Confidential Client 647 (Industrial Liquid Waste).
722		Inflow to Storage of Industrial Wastewater from Bytec Resource Management's Confidential Client 655 (Industrial Liquid Waste).
725		Inflow to Storage of Mixed Industrial Wastewater from Bytec Resource Management's Argyle Storage Tank (Outfall 001) (Industrial Liquid Waste).
726		Inflow to Storage of Mixed Industrial Wastewater from Bytec Resource Management's Argyle Storage Tank (Outfall 021) (Industrial Liquid Waste).
727		Inflow to Storage of Industrial Wastewater from Bytec Resource Management's Confidential Client #640 (Industrial Liquid Waste).
729		Inflow to Storage of Industrial Sludge from Bytec Resource Management's confidential client #631 (Industrial Liquid Sludge).
730		Inflow to Slurrystore #1 of Septic Tank Waste (Septage).
731		Inflow to Slurrystore #1 of Holding Tank Wastes (Septage).

<b>Sample Point Designation</b>		
<b>Sample Point Number</b>	<b>Discharge Flow, Units, and Averaging Period</b>	<b>Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)</b>
732		Inflow to Slurrystore #1 of Grease Trap Wastes (Septage).
733		Inflow to Storage of Municipal Cake Sludge from Sun Prairie WWTF (Sewage Cake Sludge).
736		Inflow to Slurrystore #1 of Leachate from WSH Cake Pad #1 (Sewage Liquid Sludge).
738		Inflow to Storage of Industrial Liquid Wastewater from Brewster Cheese - Stockton Plant (Industrial Liquid Waste).
739		Inflow to Storage of Liquid Industrial Wastewater from Bytec Confidential Client 660 (Industrial Liquid Waste).
740		Inflow to Storage of Liquid Industrial Wastewater from Bytec Confidential Client 694 (Industrial Liquid Waste).
741		Inflow to Storage of Liquid Industrial Wastewater from Bytec Confidential Client 637 (Industrial Liquid Waste).
742		Inflow to Storage of Liquid Industrial Wastewater from Bytec Confidential Client 650 (Industrial Liquid Waste).
743		Inflow to Storage of Liquid Industrial Wastewater from Bytec Confidential Client 654 (Industrial Liquid Waste).
744		Inflow to Storage of Liquid Industrial Wastewater from Bytec Confidential Client 687 (Industrial Liquid Waste).
745		Inflow to Storage of Liquid Industrial Wastewater from Bytec Confidential Client 627 (Industrial Liquid Waste).
746		Inflow to Storage of Liquid Industrial Wastewater from Bytec Confidential Client 636 (Industrial Liquid Waste).
747		Inflow to storage of Liquid Industrial Wastewater from Bytec Confidential Client #635 (Industrial Liquid Waste).
748		Inflow to Storage of municipal sludge from the Village of Ridgeway WWTP (Sewage Liquid Sludge).
749		Inflow to Storage of Liquid Industrial Wastewater from Dancing Goat Distillery (Industrial Liquid Waste).
750		Inflow to Storage of Liquid Industrial Wastewater from Bytec Confidential Client 610 (Industrial Liquid Waste).
751		Inflow to Storage of Industrial Wastewater from Bytec Confidential Client 627 (Industrial Liquid Waste).
752		Inflow to Storage of Liquid Industrial Wastewater from Agrifiber Solutions (Industrial Liquid Waste).

<b>Sample Point Designation</b>		
<b>Sample Point Number</b>	<b>Discharge Flow, Units, and Averaging Period</b>	<b>Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)</b>
753		Inflow to Storage of Industrial Wastewater from Bytec Confidential Client 637 (Industrial Liquid Waste).
754		Inflow to Storage of Industrial Wastewater from Bytec Confidential Client 693 (Industrial Liquid Waste).
756		Inflow to storage of industrial liquid waste from Bytec Confidential Client #684 (Industrial Liquid Waste).
757		Inflow to storage of process grease from Johnsonville Sausage (Industrial Liquid Sludge).
758		Inflow to storage of industrial liquid waste from M&J Industrial-Unilever (Industrial Liquid Waste).
759		Inflow to main storage tank of whey from Dean Dairy Holding (Industrial Liquid Waste).
760		Inflow to storage of liquid industrial sludge from Bytec Confidential Client #605 (Industrial Liquid Sludge).
761		Inflow to storage of industrial liquid waste from City Brewing-LaCrosse (Industrial Liquid Waste).
762		Inflow to storage of industrial liquid waste (permeate) from Bytec Confidential Client #621 (Industrial Liquid Waste).
763		Inflow to stroage of liquid industrial sludge from Bytec Confidential Client # 638 (Industrial Liquid Sludge).
764		Inflow to storage of cheese processing wastewater from Bytec Confidential Client #635 (Industrial Liquid Waste).
765		Inflow to storage of industrial liquid sludge from Kikkoman Foods Inc (Industrial Liquid Sludge).
766		Inflow to storage of industrial liquid wastewater (food grade tank washout wastewater) from LCL Bulk Transport (Industrial Liquid Waste).
767		Inflow to storage of industrial liquid sludge (DAF Sludge) from Kenosha Beef International (Industrial Liquid Sludge).
801		Inflow to Slurrystore #1 of Liquid Municipal Biosolids from Beloit WWTF (Sewage Liquid Sludge).
802		Inflow to Slurrystore #1 of Liquid Municipal Biosolids from Sharon WWTP (Sewage Liquid Sludge).
805		Inflow to Slurrystore #1 of Liquid Municipal Biosolids from Clinton WWTF (Sewage Liquid Sludge).
806		Inflow to Slurrystore #1 of Liquid Municipal Biosolids from

<b>Sample Point Designation</b>		
<b>Sample Point Number</b>	<b>Discharge Flow, Units, and Averaging Period</b>	<b>Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)</b>
		Libertyville WWTF (Sewage Liquid Sludge).
807		Inflow to Slurrystore #1 of Liquid Municipal Biosolids from Johnson Creek WWTF (Sewage Liquid Sludge).
808		Inflow to Slurrystore #1 of Liquid Municipal Biosolids from Orfordville WWTF (Sewage Liquid Sludge).
809		Inflow to storage pad of municipal cake sludge from East Troy WWTP (Sewage Cake Sludge).
810		Inflow to storage of municipal cake sludge from City of Brookfield WWTF (Sewage Cake Sludge).
811		Inflow to cake pad storage of municipal cake sludge from Edgerton WWTF (Sewage Cake Sludge).
812		Inflow to Slurrystore #1 of liquid municipal sludge from Valley Ridge Clean Water Commission (Sewage Liquid Sludge).
813		Inflow to Slurrystore #1 of sewage liquid sludge from Juneau WWTF (Sewage Liquid Sludge).
814		Inflow to Slurrystore #1 of sewage liquid sludge from Sun Prairie WWTP (Sewage Liquid Sludge).
815		Inflow to Slurrystore #1 of sewage liquid sludge from Rosendale WWTP (Sewage Liquid Sludge).
816		Inflow to Slurrystore #1 of leachate from Cake Pad #2 (Industrial Liquid Waste, Industrial Liquid Sludge, Sewage Liquid Sludge).
817		Inflow to main tank storage of liquid municipal sludge from Mount Horeb WWTF (Sewage Liquid Sludge).
818		Inflow to storage of liquid municipal sludge from Des Plaines River Wastewater Reclamation Facility (WRF) (Sewage Liquid Sludge).
819		Inflow to main tank storage of liquid municipal sludge from Kishwaukee Water Reclamation District (WRD) (Sewage Liquid Sludge).
820		Inflow to main tank storage of liquid municipal sludge from Village of Algonquin (Sewage Liquid Sludge).
821		Inflow to storage of Class B municipal cake sludge from Des Plaines River Water Reclamation Facility (Lake County IL) (Sewage Cake Sludge).
822		Inflow to storage of liquid class B municipal sludge from East Troy WWTF (Sewage Liquid Sludge).
823		Inflow to storage of Class B municipal cake sludge from Delafield

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)
		Hartland Water Pollution Control Commission (Sewage Cake Sludge).
824		Inflow to storage of liquid class B municipal sludge from Odells Bay Sanitary District # 1 (Sewage Liquid Sludge).
850		Inflow to storage of Industrial Cake Sludge from a future client (Industrial Cake Sludge). PLACEHOLDER: DEPARTMENT APPROVAL REQUIRED PRIOR TO USE.
851		Inflow to storage of by-product solids from a future client (Industrial By-Product Solids). PLACEHOLDER: DEPARTMENT APPROVAL REQUIRED PRIOR TO USE.

## 1.2 New Waste Stream Requirements

This section allows WSH to add waste from new clients or a new type of waste stream from an existing client during the term of the permit subject to pre- approval by the department. There is an exception to this requirement. New food processing waste can be added to storage without department preapproval. This section is not new. The following changes were made from the previous permit:

### Changes from Previous Permit

1. There is now a requirement for WSH to indicate potential sources of domestic (sanitary) waste within the industrial clients' waste streams for all new clients.
2. Arsenic, Cadmium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, and Zinc have all been included as required parameters for all new industrial sludge and sewage sludge waste streams. Fecal Coliform is included for all sewage sludge waste streams.
3. The "New Food Processing" pre-approval exemption process has a minor addition to it. In addition to the sampling results for the new food processing waste, this section now requires WSH to submit a record of the total volume of the unapproved food processing waste that has been accepted by the facility within 30 days of receiving the waste. This section has also been changed to require the permittee to clarify with the department if a particular waste stream falls into the category of "Food Processing" Waste.

### Explanation of Changes

1. WSH is required to indicate potential sources of domestic waste within each industrial client's waste stream because this will aid in assessing if future industrial clients' waste streams would need to go to the commingled Slurrystore #1 tank and therefore subject to additional land application pollutant limitations to protect public health and ground water, as opposed to industrial-only storage facilities (such as the Slurrystore #2 tank).
2. Metals sampling is required for all new cake sludge (and all sewage sludge) clients, and fecal coliform is required for sewage sludge clients, for the following reasons:



- Given the wide array of industrial contributors accepted at WSH's facility, there is a significant potential that some new industrial cake sludge clients may have high levels of metals. These metal-containing industries may also discharge their waste to a publicly owned treatment work, which could cause the sewage sludge to have high metal levels as well.
3. The pre-approval exemption process for new food processing clients has been altered because, based on the nature of the waste hauling business, there are several potential industries that may or may not fall within the food processing category that may need to be identified on a case-by-case basis. By requiring WSH to clarify with the department for the wastes that are not obviously food processing wastes, flexibility is maintained while also allowing for department input, when necessary. This elimination of confusion lowers the likelihood of permit noncompliance. Additionally, the proposed change requires that WSH record and report the volume of wastes received from new food processing clients from the time they accept the waste - both prior to, and after, department action/approval of the new food processing waste request. By explicitly including this requirement, it decreases the likelihood that permit noncompliance would occur as a result of WSH being unaware of what is needed.

### **1.3 Updated Characteristic Sampling Data**

#### **Changes from Previous Permit**

This new section requires WSH to submit updated characteristic sampling data for all industrial clients with data older than five years from the expiration date of the proposed WPDES permit. The authority to require information with a permit application comes from s. NR 200.09, Wis. Adm. Code.

#### **Explanation of Changes**

This new section is proposed for the following reasons:

1. Under the status quo, the permit previously had no mechanism to ensure that WSH obtain recent sampling data from each active client. One data point for potentially millions of gallons of influent waste over the course of a several years is insufficient to properly characterize the type and pollutant concentrations of the waste coming into the facility. Facility processes routinely change, which can result in waste characterization changes. Having recent data on influent waste provides useful information to both WSH and the department to ensure that it's being regulated in a safe and effective manner.
2. WSH may stop receiving certain clients' waste streams for a variety of reasons (client goes out of business, client chooses an alternative method of disposal, client chooses a different hauler, etc....). Because certain clients may become inactive over time, this sampling requirement ensures that the client list is updated every five years and contains only active clients, thus decreasing the number of unnecessary influent sampling points in the permit and resulting DMRs.

Requiring updated sampling results increases the ability for WSH to ensure that they have a proper understanding of the characteristics of the wastes coming into the facility. Under the status quo, it is likely that industrial clients could change operations, which may affect the classifications of the waste streams that are being accepted. This has permitting implications as well, as the classification of industrial wastes impacts how they are regulated.

### **1.4 Proposed Influent Monitoring Requirements**

**1.4.1 Sample Point Number: 708- Bytec Confidential Client 620; 709- Bytec Confidential Client 622; 713- Bytec Confidential Client 665; 714- Grande Cheese - PGP; 715- Bytec Confidential Client 625; 719- Bytec Confidential Client 648; 720- Bytec Confidential Client 639; 721- Bytec Confidential Client 647; 722- Bytec Confidential Client 655; 725- Bytec Storage Outfall 001; 726- Bytec Storage Outfall 021; 727- Bytec Confidential Client 640; 738- Brewster Cheese (IL); 739- Bytec Confidential Client 660; 740- Bytec Confidential Client 694; 741- Bytec Confidential Client 637; 742- Bytec Confidential Client 650; 743- Bytec Confidential Client 654; 744- Bytec Confidential Client 687; 745- Bytec Confidential Client 627; 746- Bytec Confidential Client 636; 747- Bytec Confidential Client 635; 749- Dancing Goat Distillery ; 750- Bytec Confidential Client 610; 751- Bytec Confidential Client 627; 752- Agrifiber Solutions; 753- Bytec Confidential Client 637; 754- Bytec Confidential Client 693; 756- Bytec Confidential Client 684; 758- M&J Industrial-Unilever; 759- Dean Dairy Holding; 760- Bytec Confidential Client 605; 761- City Brewing; 762- Bytec Confidential Client 621; 764- Bytec Confidential Client 635; 766- LCL Bulk Transport; 767- Kenosha Beef International**

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Industrial Liquid Waste		gal/month	Monthly	Estimated	

### **Changes from Previous Permit:**

The structure of the influent section of this permit has changed to make the distinction between the different types of wastes received clearer. Instead of reporting “flow rate” as a parameter, the permittee will now report the volume of that client’s specific waste stream to the department.

The reporting frequency has also been changed to only require the permittee to report the monthly volume of waste received through this outfall, not the daily totals.

### **Explanation of Limits and Monitoring Requirements**

The new structure allows the department to be able to distinguish between different volumes of different waste types more easily.

The reporting frequency should be less of a reporting burden for the permittee, since WSH will only need to report monthly instead of daily totals.

### **1.4.2 Sampling Point 729 - Bytec Confidential Client 631; 757- Johnsonville Sausage; 763- Bytec Confidential Client 638; 765- Kikkoman Foods Inc**

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Industrial Liquid		gal/month	Monthly	Estimated	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Sludge					

### Changes from Previous Permit:

The structure of the influent section of this permit has changed to make the distinction between the different types of wastes received clearer. Instead of reporting “flow rate” as a parameter, the permittee will now report the volume of that client’s specific waste stream to the department.

The reporting frequency has also been changed to only require the permittee to report the monthly volume of waste received through this outfall, not the daily totals.

### Explanation of Limits and Monitoring Requirements

The new structure allows the department to be able to distinguish between different volumes of different waste types more easily.

The reporting frequency should be less of a reporting burden for the permittee, since WSH will only need to report monthly instead of daily totals.

#### 1.4.3 Sample Point Number: 850- PH: Ind. Cake Sludge Client

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Industrial Cake Sludge		lbs/month	Monthly	Estimated	

### Changes from Previous Permit:

This placeholder influent client has been added to provide a place for reporting waste from future industrial cake sludge clients.

#### 1.4.4 Sample Point Number: 851- PH: By-Product Solids Client

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Industrial By-Product Solids		lbs/month	Monthly	Estimated	

### Changes from Previous Permit:

This placeholder influent client has been added to provide a place for reporting waste from future industrial by-product solids clients.

**1.4.5 Sample Point Number: 717- Evansville WWTP; 736- Leachate from Cake Pad #1; 748- Ridgeway WWTP; 801- Beloit WWTF; 802- Sharon WWTP ; 805- Clinton WWTF Mun Sludge; 806- Libertyville WWTF Mun Sludge; 807- Johnson Creek WWTF; 808- Orfordville WWTF; 812- Valley Ridge Clean Water Comm; 813- Juneau WWTF; 814- Sun Prairie WWTP; 815- Rosendale WWTP; 816- Leachate from Cake Pad #2; 817- Mount Horeb WWTF; 818- Des Plaines River WRF; 819- Kishwaukee Water Reclam. Dist.; 820- Village of Algonquin; 822- Village of East Troy; 824- Odells Bay SD Number 1**

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Sewage Liquid Sludge		gal/month	Monthly	Estimated	

### Changes from Previous Permit:

The structure of the influent section of this permit has changed to make the distinction between the different types of wastes received clearer. Instead of reporting “flow rate” as a parameter, the permittee will now report the volume of that client’s specific waste stream to the department.

The reporting frequency has also been changed to only require the permittee to report the monthly volume of waste received through this outfall, not the daily totals.

### Explanation of Limits and Monitoring Requirements

The new structure allows the department to be able to distinguish between different volumes of different waste types more easily.

The reporting frequency should be less of a reporting burden for the permittee, since WSH will only need to report monthly instead of daily totals.

**1.4.6 Sample Point Number: 733- Sun Prairie Cake Sludge; 809- Bytec Client 901; 810- City of Brookfield WWTF; 811- Edgerton WWTF; 821- Des Plaines River WRF; 823- Delafield Hartland WPCC**

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Sewage Cake Sludge		lbs/month	Monthly	Estimated	

### Changes from Previous Permit:

The structure of the influent section of this permit has changed to make the distinction between the different types of wastes received clearer. Instead of reporting “flow rate” as a parameter, the permittee will now report the volume of that client’s specific waste stream to the department.

The reporting frequency has also been changed to only require the permittee to report the monthly volume of waste received through this outfall, not the daily totals.

### Explanation of Limits and Monitoring Requirements

The new structure allows the department to be able to distinguish between different volumes of different waste types more easily.

The reporting frequency should be less of a reporting burden for the permittee, since WSH will only need to report monthly instead of daily totals.

#### **1.4.7 Sample Point Number: 730- Septic Tank Waste; 731- Holding Tank Waste; 732- Grease Trap Wastes**

<b>Monitoring Requirements and Limitations</b>					
<b>Parameter</b>	<b>Limit Type</b>	<b>Limit and Units</b>	<b>Sample Frequency</b>	<b>Sample Type</b>	<b>Notes</b>
Flow Rate		gal/month	Monthly	Estimated	

#### **Changes from Previous Permit:**

Because the influent septage wastes are already grouped by waste type, the “flow rate” parameter is unchanged.

The reporting frequency has been changed to only require the permittee to report the monthly volume of waste received through this outfall, not the daily totals.

The Septage Daily Inflow Log formatting in the permit has been altered, with the requirements remaining the same.

#### **Explanation of Limits and Monitoring Requirements**

The new structure allows the department to be able to distinguish between different volumes of different waste types more easily.

The reporting frequency should be less of a reporting burden for the permittee, since WSH will only need to report monthly instead of daily totals.

## 2 Land Application

### 2.1 Outfall Sample Point Numbers

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period (See Appendix A)	Sample Point/Outfall Location, Waste Type/Sample Contents, and Treatment description (as applicable)
001		Land Application of Mixed Municipal Sludge, Industrial wastewater, Industrial Sludge, and Septage Wastes from Steel, Glass Lined Tank designated as Slurrystore #1. The process for obtaining a representative sample is detailed in the land management plan. Location: 2N, 15E, Section 21 SE1/4, SW1/4. Sludge may contain Radium. (Septage, Sewage Liquid Sludge, Industrial Liquid Waste, Industrial Liquid Sludge).
002		Land Application of Sewage Cake Sludge from Cake Pad #1. The process for obtaining a representative sample is detailed in the land management plan. Location: 2N, 15E, Section 21 SE1/4, SW1/4 (Sewage Cake Sludge - contains radium).
005		Land application of mixed industrial liquid waste and industrial liquid sludge from the tank known as Slurrystore #2. The process for obtaining a representative sample is detailed in the land management plan. Location: 2N, 15E, Section 21 SE1/4, SW1/4 (Industrial Liquid Waste, Industrial Liquid Sludge).
006		Land Application of mixed sewage cake sludge, industrial cake sludge, and by-product solids from Cake Pad #2, located at 2N, 15E, Section 21 SE1/4, SW1/4. The process for obtaining a representative sample is detailed in the land management plan. (Sewage Cake Sludge – contains Radium, Industrial Cake sludge, Industrial By- Product Solids). PLACEHOLDER: DEPARTMENT APPROVAL REQUIRED PRIOR TO USE.
007		Land Application of mixed sewage cake sludge, industrial by-product solids, and industrial cake sludge from Cake Pad #1. The process for obtaining a representative sample is detailed in the land management plan. Location: 2N, 15E, Section 21 SE1/4, SW1/4. (Sewage Cake Sludge - contains Radium, Industrial Cake Sludge, Industrial by-product solids). PLACEHOLDER: DEPARTMENT APPROVAL REQUIRED PRIOR TO USE.
608		Direct land application of sewage liquid sludge from Clinton WWTP.
609		Direct Land Application of sewage cake sludge from Sun Prairie WWTP.
610		Direct Land Application of sewage cake sludge from East Troy WWTP.

611		Direct Land Application of sewage liquid sludge from Edgerton WWTP.
612		Direct Land Application of sewage liquid sludge from Brookfield WWTP.
613		Direct Land Application of sewage liquid sludge from an approved client (contains Radium). PLACEHOLDER: DEPARTMENT APPROVAL REQUIRED PRIOR TO USE.
614		Direct Land Application of sewage cake sludge from Delafield-Hartland Water Pollution Control Commission (contains Radium).
615		Direct Land Application of industrial liquid waste or industrial liquid sludge from an approved client. PLACEHOLDER: DEPARTMENT APPROVAL REQUIRED PRIOR TO USE.

## 2.2 Monitoring Requirements and Limitations

### 2.2.1 Sample Point Number: 001- Slurrystore #1 (M(R)+I+S)

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gal/month	Monthly	Estimated	Septage, Sewage Liquid Sludge (contains Radium), Industrial Liquid Waste, Industrial Liquid Sludge.
Solids, Total		Percent	Weekly	Composite	
Nitrogen, Total Kjeldahl		mg/L	Weekly	Composite	
Nitrogen, Ammonia (NH3-N) Total		mg/L	Weekly	Composite	
Phosphorus, Total		mg/L	Weekly	Composite	
Phosphorus, Water Extractable		mg/L	Quarterly	Composite	
Potassium, Total Recoverable		mg/L	Weekly	Composite	
pH Field		su	Weekly	Grab	
COD		mg/L	Weekly	Composite	
Chloride		mg/L	Weekly	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Quarterly	Composite	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Cadmium Dry Wt	Ceiling	85 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Quarterly	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Quarterly	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Quarterly	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Quarterly	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Quarterly	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Quarterly	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Quarterly	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Quarterly	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Quarterly	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Quarterly	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Quarterly	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Quarterly	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Quarterly	Composite	
Fecal Coliform	Geometric Mean - Monthly	2,000,000 MPN/g TS	Quarterly	Grab	
Radium 226 Dry Wt		pCi/g	Annual	Composite	

### Changes from Previous Permit:

Flow rate monitoring (on a monthly basis, when discharge occurs during a month) is included.

Sampling is now required weekly (when discharging) for COD and chloride.

The 2,000,000 MPN/g TS monthly fecal coliform limit is included.

“Sample Type” for Fecal Coliform has changed from “Composite” to “Grab”

“Daily Log” has been altered to include the Date and Outfall Number.

“Annual Report” requirements have been altered to include Volume/Acre, Other Sources of Nitrogen, and Application Method.

### Explanation of Limits and Monitoring Requirements

Flow rate monitoring is now included to both align the permit requirements with those of other permitted haulers in Wisconsin, and also allow the department to observe trends in land application frequency on a monthly basis.

Sampling for chloride is included as there is a chloride loading rate of 340 lbs/acre/2 years per NR 214, and the permittee should be sampling in order to track chloride loading rates.



Sampling for COD is included in order to assess the level of this pollutant in the discharge. Additionally, this monitoring requirement is in line with the requirements of other hauler permits across Wisconsin.

S. NR 204.07(6)(b), Wis. Adm. Code, outlines specific requirements for the landspreading of Class B sludge. Within this section of NR 204 is a requirement that compliance with the 2,000,000 MPN/g TS limit shall be demonstrated by calculating the geometric mean of at least 7 separate samples to satisfy the pathogen reduction requirements under state and federal regulations. This is the option that WSH has selected for pathogen reduction.

The permit now specifies that the permittee should be sampling for Fecal Coliform using individual grab samples because a composite sample for Fecal Coliform can affect the representativeness of that sample. A grab sample is preferred as compliance is assessed through the collection and sampling of 7 individual grab samples.

The required information in the daily log and the annual report has been altered to align the information that is recorded with the information on the 3400-55 form.

## 2.2.2 Sample Point Number: 002- Cake Pad #1 (M(R))

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		lbs/month	Monthly	Estimated	Sewage Cake Sludge (contains Radium)
Solids, Total		Percent	Quarterly	Composite	
Nitrogen, Total Kjeldahl		Percent	Quarterly	Composite	
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total		Percent	Quarterly	Composite	
Phosphorus, Total		Percent	Quarterly	Composite	
Phosphorus, Water Extractable		% of Tot P	Quarterly	Composite	
Potassium, Total Recoverable		Percent	Quarterly	Composite	
pH Field		su	Quarterly	Grab	
Arsenic Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Quarterly	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Quarterly	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Quarterly	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Quarterly	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Quarterly	Composite	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Mercury Dry Wt	Ceiling	57 mg/kg	Quarterly	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Quarterly	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Quarterly	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Quarterly	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Quarterly	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Quarterly	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Quarterly	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Quarterly	Composite	
Fecal Coliform	Geometric Mean - Monthly	2,000,000 MPN/g TS	Quarterly	Grab	
Radium 226 Dry Wt		pCi/g	Annual	Composite	

### Changes from Previous Permit:

Flow rate monitoring (on a monthly basis, when discharge occurs during a month) is included.

The 2,000,000 MPN/g TS monthly fecal coliform limit is included.

“Sample Type” for Fecal Coliform has changed from “Composite” to “Grab”

“Daily Log” has been altered to include the Date and Outfall Number.

“Annual Report” requirements have been altered to include Volume/Acre, Other Sources of Nitrogen, and Application Method.

### Explanation of Limits and Monitoring Requirements

Flow rate monitoring is now included to both align the permit requirements with those of other permitted haulers in Wisconsin, and also allow the department to observe trends in land application frequency on a monthly basis.

S. NR 204.07(6)(b), Wis. Adm. Code, outlines specific requirements for the landspreading of Class B sludge. Within this section of NR 204 is a requirement that compliance with the 2,000,000 MPN/g TS limit shall be demonstrated by calculating the geometric mean of at least 7 separate samples to satisfy the pathogen reduction requirements under state and federal regulations. This is the option that WSH has selected for pathogen reduction.

The permit now specifies that the permittee should be sampling for Fecal Coliform using individual grab samples because a composite sample for Fecal Coliform can affect the representativeness of that sample. A grab sample is preferred as compliance is assessed through the collection and sampling of 7 individual grab samples.

The required information in the daily log and the annual report has been altered to align the information that is recorded with the information on the 3400-55 form.

### 2.2.3 Sample Point Number: 005- Slurrystore #2 (I)

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gal/month	Monthly	Estimated	Industrial Liquid Waste, Industrial Liquid Sludge.
Solids, Total		Percent	Weekly	Composite	
Nitrogen, Total Kjeldahl		mg/L	Weekly	Composite	
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total		mg/L	Weekly	Composite	
Phosphorus, Total		mg/L	Weekly	Composite	
Phosphorus, Water Extractable		% of Tot P	Quarterly	Composite	
Potassium, Total Recoverable		mg/L	Weekly	Composite	
COD		mg/L	Weekly	Composite	
Chloride		mg/L	Weekly	Composite	
pH Field		su	Weekly	Grab	

### Changes from Previous Permit:

Flow rate monitoring (on a monthly basis, when discharge occurs during a month) is included.

### Explanation of Limits and Monitoring Requirements

Flow rate monitoring is now included to both align the permit requirements with those of other haulers in Wisconsin, and also allow the department to observe trends in land application frequency on a monthly basis.

### 2.2.4 Sample Point Number: 006- PH: Cake Pad #2 (M(R)+I); 007- PH: Cake Pad #1 (M(R)+I)

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		lbs/month	Monthly	Estimated	Sewage Cake Sludge (contains Radium), Industrial Cake Sludge, Industrial By-Product Solids.
Solids, Total		Percent	Quarterly	Composite	
Nitrogen, Total		Percent	Quarterly	Composite	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Kjeldahl					
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total		Percent	Quarterly	Composite	
Phosphorus, Total		Percent	Quarterly	Composite	
Phosphorus, Water Extractable		% of Tot P	Quarterly	Composite	
Potassium, Total Recoverable		Percent	Quarterly	Composite	
pH Field		su	Quarterly	Grab	
COD		Percent	Quarterly	Composite	
Chloride		Percent	Quarterly	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Quarterly	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Quarterly	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Quarterly	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Quarterly	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Quarterly	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Quarterly	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Quarterly	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Quarterly	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Quarterly	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Quarterly	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Quarterly	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Quarterly	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Quarterly	Composite	
Fecal Coliform	Geometric Mean - Monthly	2,000,000 MPN/g TS	Quarterly	Grab	
Radium 226 Dry Wt		pCi/g	Annual	Composite	

## Changes from Previous Permit:

Flow rate monitoring (on a monthly basis, when discharge occurs during a month) is included.

The 2,000,000 MPN/g TS monthly fecal coliform limit is included.

“Sample Type” for Fecal Coliform has changed from “Composite” to “Grab”

## Explanation of Limits and Monitoring Requirements

Flow rate monitoring is now included to both align the permit requirements with those of other permitted haulers in Wisconsin, and also allow the department to observe trends in land application frequency on a monthly basis.

S. NR 204.07(6)(b), Wis. Adm. Code, outlines specific requirements for the landspreading of Class B sludge. Within this section of NR 204 is a requirement that compliance with the 2,000,000 MPN/g TS limit shall be demonstrated by calculating the geometric mean of at least 7 separate samples to satisfy the pathogen reduction requirements under state and federal regulations. This is the option that WSH has selected for pathogen reduction.

The permit now specifies that the permittee should be sampling for Fecal Coliform using individual grab samples because a composite sample for Fecal Coliform can affect the representativeness of that sample. A grab sample is preferred as compliance is assessed through the collection and sampling of 7 individual grab samples.

### 2.2.5 Sampling Point (Outfall) 608 - DLA: Clinton WWTP; 611- DLA: Edgerton WWTP; 612- DLA: Brookfield WWTP

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gal/month	Monthly	Estimated	Direct Land Application: Sewage Liquid Sludge
Solids, Total		Percent	Quarterly	Composite	
Nitrogen, Total Kjeldahl		mg/L	Quarterly	Composite	
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total		mg/L	Quarterly	Composite	
Phosphorus, Total		mg/L	Quarterly	Composite	
Phosphorus, Water Extractable		% of Tot P	Quarterly	Composite	
Potassium, Total Recoverable		mg/L	Quarterly	Composite	
pH Field		su	Quarterly	Grab	
Arsenic Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Quarterly	Composite	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Copper Dry Wt	Ceiling	4,300 mg/kg	Quarterly	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Quarterly	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Quarterly	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Quarterly	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Quarterly	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Quarterly	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Quarterly	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Quarterly	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Quarterly	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Quarterly	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Quarterly	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Quarterly	Composite	
Fecal Coliform	Geometric Mean - Monthly	2,000,000 MPN/g TS	Quarterly	Grab	

### Changes from Previous Permit:

New approved outfalls for sewage sludge direct land application clients.

### Explanation of Limits and Monitoring Requirements

All requirements for direct land application of sewage sludge are based in ch. NR 204, Wis. Adm. Code and similar requirements for other similar haulers across Wisconsin.

#### 2.2.6 Sampling Point (Outfall) 609 - DLA: Sun Prairie WWTP; 610- DLA: East Troy WWTP

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		lbs/month	Monthly	Estimated	Direct Land Application: Sewage Cake Sludge
Solids, Total		Percent	Quarterly	Composite	
Nitrogen, Total Kjeldahl		Percent	Quarterly	Composite	
Nitrogen, Ammonia		Percent	Quarterly	Composite	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
(NH3-N) Total					
Phosphorus, Total		Percent	Quarterly	Composite	
Phosphorus, Water Extractable		% of Tot P	Quarterly	Composite	
Potassium, Total Recoverable		Percent	Quarterly	Composite	
pH Field		su	Quarterly	Grab	
Arsenic Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Quarterly	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Quarterly	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Quarterly	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Quarterly	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Quarterly	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Quarterly	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Quarterly	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Quarterly	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Quarterly	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Quarterly	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Quarterly	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Quarterly	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Quarterly	Composite	
Fecal Coliform	Geometric Mean - Monthly	2,000,000 MPN/g TS	Quarterly	Grab	

## Changes from Previous Permit:

New approved outfalls for sewage sludge direct land application clients.

## Explanation of Limits and Monitoring Requirements

All requirements for direct land application of sewage sludge are based in ch. NR 204, Wis. Adm. Code and similar requirements for other similar haulers across Wisconsin.

## 2.2.7 Sampling Point (Outfall) 613 - PH: DLA: Sewage Liquid (Ra)

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gal/month	Monthly	Estimated	Direct Land Application: Sewage Liquid Sludge (contains Radium). PLACEHOLDER.
Solids, Total		Percent	Quarterly	Composite	
Nitrogen, Total Kjeldahl		mg/L	Quarterly	Composite	
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total		mg/L	Quarterly	Composite	
Phosphorus, Total		mg/L	Quarterly	Composite	
Phosphorus, Water Extractable		% of Tot P	Quarterly	Composite	
Potassium, Total Recoverable		mg/L	Quarterly	Composite	
pH Field		su	Quarterly	Grab	
Arsenic Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Quarterly	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Quarterly	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Quarterly	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Quarterly	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Quarterly	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Quarterly	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Quarterly	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Quarterly	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Quarterly	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Quarterly	Composite	



Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Selenium Dry Wt	High Quality	100 mg/kg	Quarterly	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Quarterly	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Quarterly	Composite	
Fecal Coliform	Geometric Mean – Monthly	2,000,000 MPN/g TS	Quarterly	Grab	
Radium 226 Dry Wt		pCi/g	Annual	Composite	

## Changes from Previous Permit:

New placeholder outfall for future sewage liquid sludge clients which contain radium.

## Explanation of Limits and Monitoring Requirements

All requirements for direct land application of sewage sludge are based in ch. NR 204, Wis. Adm. Code and similar requirements for other similar haulers across Wisconsin.

### 2.2.8 Sampling Point (Outfall) 614 - DLA: Delafield-Hartland WPCC

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		lbs/month	Monthly	Estimated	Direct Land Application: Sewage Cake Sludge (contains Radium)
Solids, Total		Percent	Quarterly	Composite	
Nitrogen, Total Kjeldahl		Percent	Quarterly	Composite	
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total		Percent	Quarterly	Composite	
Phosphorus, Total		Percent	Quarterly	Composite	
Phosphorus, Water Extractable		% of Tot P	Quarterly	Composite	
Potassium, Total Recoverable		Percent	Quarterly	Composite	
pH Field		su	Quarterly	Grab	
Arsenic Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Arsenic Dry Wt	High Quality	41 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Quarterly	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Quarterly	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Quarterly	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Quarterly	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Quarterly	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Quarterly	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Quarterly	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Quarterly	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Quarterly	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Quarterly	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Quarterly	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Quarterly	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Quarterly	Composite	
Fecal Coliform	Geometric Mean - Monthly	2,000,000 MPN/g TS	Quarterly	Grab	
Radium 226 Dry Wt		pCi/g	Annual	Composite	

## Changes from Previous Permit:

New outfall for tracking the volume and waste characteristics of sewage cake sludge which contains radium from Delafield-Hartland Water Pollution Control Commission.

## Explanation of Limits and Monitoring Requirements

All requirements for direct land application of sewage sludge are based in ch. NR 204, Wis. Adm. Code and similar requirements for other similar permitted haulers across Wisconsin.

### 2.2.9 Sampling Point (Outfall) 615 - PH: DLA: Industrial Liquid

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gal/month	Monthly	Estimated	Industrial Liquid Waste, Industrial Liquid Sludge.
Solids, Total		Percent	Quarterly	Composite	
Nitrogen, Total Kjeldahl		mg/L	Quarterly	Composite	
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total		mg/L	Quarterly	Composite	
Phosphorus, Total		mg/L	Quarterly	Composite	
Phosphorus, Water Extractable		mg/L	Quarterly	Composite	
Potassium, Total Recoverable		mg/L	Quarterly	Composite	
pH Field		su	Quarterly	Grab	
COD		mg/L	Quarterly	Composite	
Chloride		mg/L	Quarterly	Composite	

#### Changes from Previous Permit:

New placeholder outfall for future industrial liquid waste or industrial liquid sludge clients.

All previous DLA industrial clients have been inactivated in this permit (previously s. 2.2.5).

“Total Solids” and “Flow Rate” have been added as monitoring parameters.

#### Explanation of Limits and Monitoring Requirements

All requirements for direct land application of sewage sludge are based in ch. NR 214, Wis. Adm. Code and similar requirements for other similar permitted haulers across Wisconsin.

“Total Solids” has been added to further characterize the waste stream.

Flow rate monitoring is now included to both align the permit requirements with those of other permitted haulers in Wisconsin, and also allow the department to observe trends in land application frequency on a monthly basis.

### 2.3 Sewage Sludge Land Application Requirements

#### Changes from Previous Permit:

s. 2.3.1 “Fecal Coliform Density” has been added.

s. 2.3.7 “Land Application of Sludge Which Contains Elevated Levels of Radium-226” has been added.

s. 2.3.8 “Designated Landspreading Sites for Sewage Sludge” has been added.

#### Explanation of Limits and Monitoring Requirements

All requirements for land application of sewage sludge are based in ch. NR 204, Wis. Adm. Code and similar requirements for other similar haulers across Wisconsin.

“Fecal Coliform Density” language has been added to clarify how compliance with the fecal coliform limit is assessed.

“Radium-226” language has been added to assist the permittee in calculating radium loadings onto the fields, and the requirements from ch. NR 204 are explicitly mentioned.

Designated landspreading sites for sewage sludge language has been added for clarification purposes and statewide consistency.

## **2.4 General Land Application Requirements**

### **Changes from Previous Permit:**

s. 2.4.4 “Operating Requirements and Management Plan” has been updated to include additional considerations for the management plan.

s. 2.4.5 “Composite Sampling” has been added.

s. 2.4.6 “Reporting – Monthly & Quarterly Form 3400-49” has been added

s. 2.4.7 “Operational Changes” has been added.

### **Explanation of Limits and Monitoring Requirements**

s. 2.4.4 has been updated with the additional requirements of the inclusion of sampling methods, procedures and locations in the Management Plan. These changes will allow both the department and WSH to agree on the method in which samples are collected. Spill mitigation and notification procedures are now required to be included in the Management Plan for use in the event of a spill onsite.

s. 2.4.5 has been added to draw attention to the method in which samples should be collected.

s. 2.4.6 has been moved to this section; previously, this language was found under the various outfalls. The last sentence in this section has been changed to clearly state the department’s intent in having the permittee submit each individual sample result instead of reporting the monthly average for more frequent monitoring.

s. 2.4.7 has been added to ensure that the permit reflects current operating conditions and that representative samples are taken of the waste.

### 3 Compliance Schedules

#### 3.1 Land Management Plan

A management plan is required for the land application system.

Required Action	Due Date
<b>Land Management Plan Submittal:</b> Submit an update to the management plan to optimize the land application system performance and demonstrate compliance with ch. NR 204, ch. NR 113, and ch. NR 214, Wis. Adm. Codes, by the Due Date. This management plan shall 1) specify information on pretreatment processes (if any); 2) identify land application sites; 3) describe site limitations; 4) address vegetative cover management and removal; 5) specify availability of storage; 6) describe the type of transporting and spreading vehicle(s); 7) specify monitoring procedures; 8) track site loading; 9) address contingency plans for adverse weather and odor/nuisance abatement; 10) spill notification and mitigation procedures; and 11) include any other pertinent information. Once approved, all landspreading activities shall be conducted in accordance with the plan. Any changes to the plan must be approved by the department prior to implementing the changes.	06/01/2022
<b>Ongoing Management Plan Updates:</b> Updates are to be submitted and approved by the department when changes are made in land application practices. All updates should contain the latest colored aerial photos available.	

#### Explanation of Compliance Schedules

The Land Application Management Plan should be updated regularly to properly reflect current operations at WSH. This schedule serves as a reminder for WSH to update the management plan to incorporate changes in the reissued WPDES permit within 3 months of reissuance. Any future changes to the management plan shall be approved by the department.

#### Substantial Compliance Determination:

Based on a department inspection of WSH's facility on 12/14/2021, the permittee is found to be in substantial compliance with the terms of its WPDES permit.

#### Attachments:

Appendix A: eDMR Data 2016 - 2020

#### Proposed Expiration Date:

03/31/2027

#### Prepared By:

Nate Willis  
Wastewater Engineer  
Bureau of Water Quality

#### Date:

02/09/2022

#### cc:

Stephen Warrner, DNR

# APPENDIX A

## 2016 – 2020 Data Summary

### Influent Waste (to Storage)

#### Influent Volume (gal)

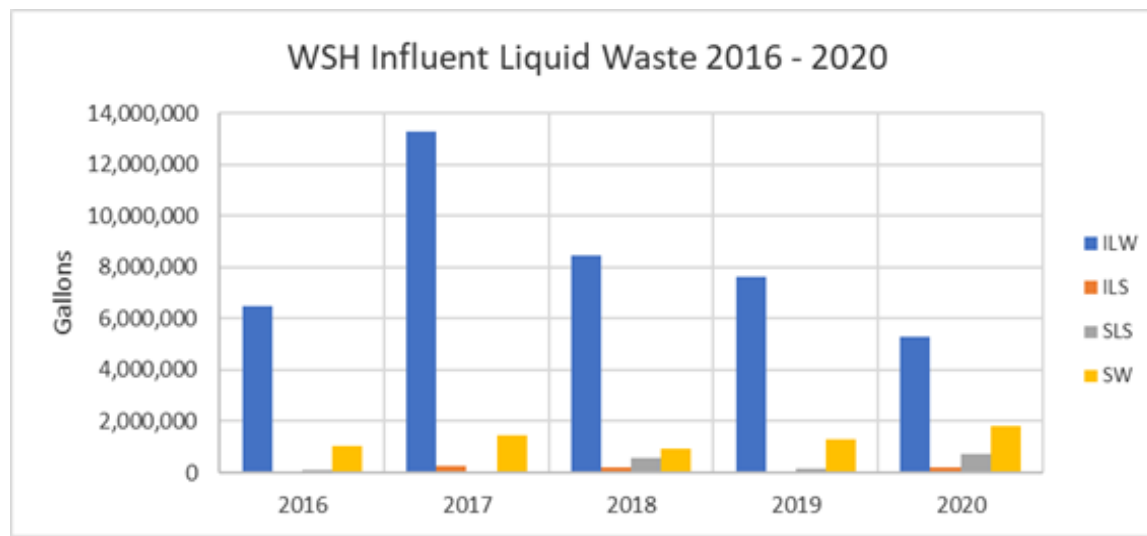
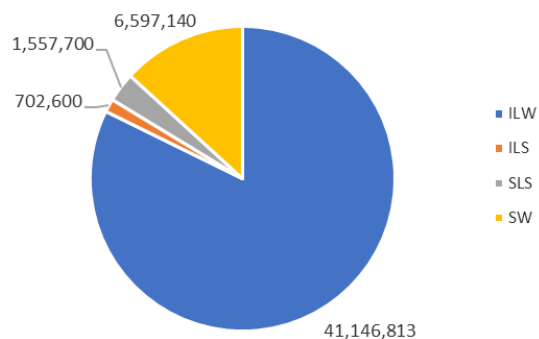
Industrial Liquid Waste				
2016	2017	2018	2019	2020
6,476,344	13,310,740	8,467,571	7,611,809	5,280,349

Septage				
2016	2017	2018	2019	2020
1,053,960	1,476,000	938,310	1,297,760	1,831,110

Industrial Liquid Sludge				
2016	2017	2018	2019	2020
0	271,000	198,000	28,200	205,400

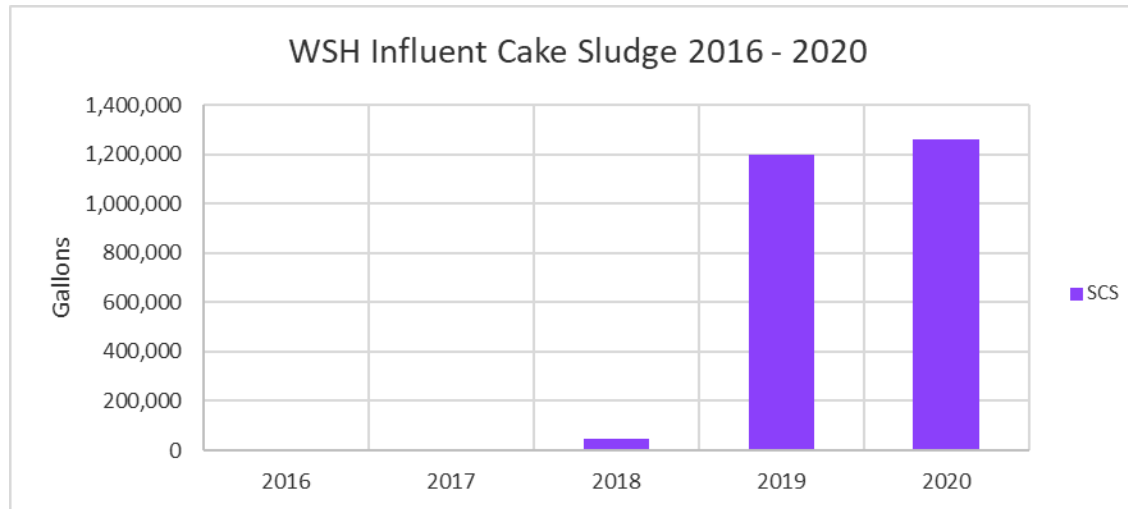
Sewage Liquid Sludge				
2016	2017	2018	2019	2020
114,500	3,000	547,700	174,100	718,400

WSH Influent Liquid Waste 2016 - 2020



**Influent Volume (gal – cont.)**

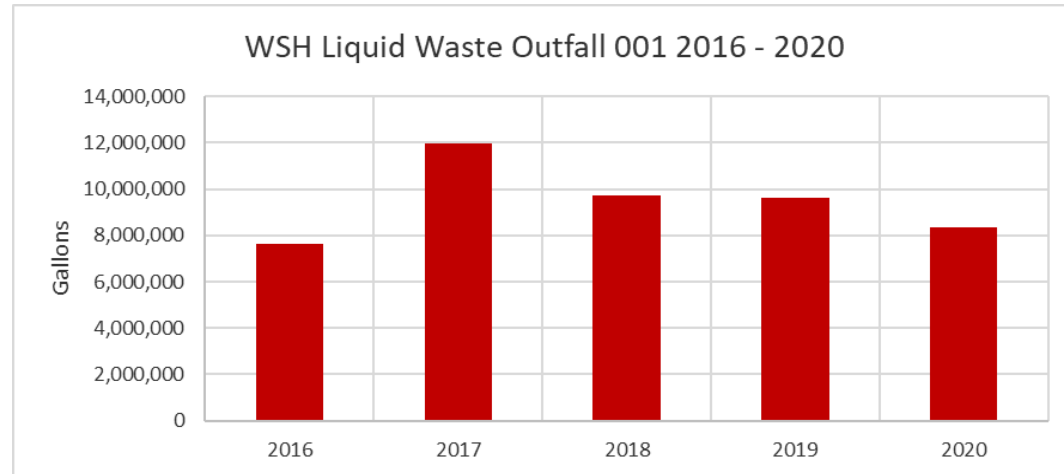
Sewage Cake Sludge				
2016	2017	2018	2019	2020
0	0	46,240	1,201,009	1,261,060



## Waste Land Applied

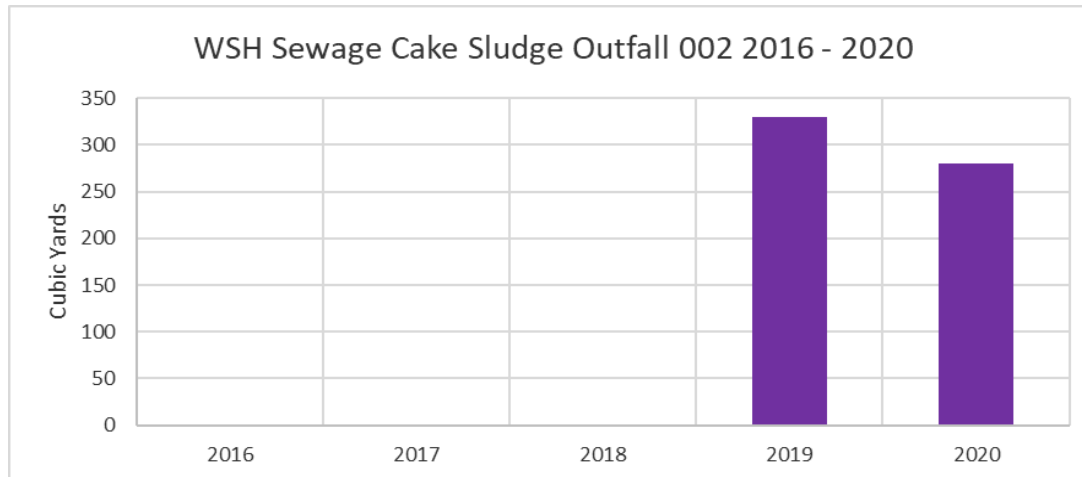
### Outfall 001: Mixed sewage liquid sludge, septage wastes, industrial liquid wastes, and industrial liquid sludge from Slurrystore #1

Year	Volume (gal)
2016	7,629,200
2017	11,995,745
2018	9,752,185
2019	9,637,837
2020	8,359,065



### Outfall 002: Sewage Cake Sludge from Cake Pad #1

Year	Amount (yd3)
2016	0
2017	0
2018	23 (tons)
2019	330
2020	280





# Sampling Results

## Outfall 001: Mixed sewage liquid sludge, septage wastes, industrial liquid wastes, and industrial liquid sludge from Slurrystore #1

Date	WEP (mg/L)	Solids (%)	Chloride (mg/L)	Ammonium (mg/L)	TKN (mg/L)	P (mg/L)	K (mg/L)	pH	COD (mg/L)	FC (MPN/g TS)
4/1/2016	18.08 (% of P)	0.89		5.12 (%)	7.02 (%)	0.03 (%)	2.71 (%)			
7/12/2016	10.82 (% of P)	2.49	8.43 (%)	3.5 (%)	3.53 (%)	1.38 (%)	3.68 (%)			
10/5/2016	9.95 (% of P)	1.51	7.62 (%)	2.7 (%)	7.22 (%)	2.92 (%)	4.01 (%)			
1/18/2017	1.6	1.73	2.12 (%)	1.23 (%)	4.4 (%)	1.6 (%)	2.15 (%)			1910000
3/8/2017		5.465	1275	114	398	1641	462	3.95	66300	
5/4/2017	304									3550
5/17/2017		7.75	489	1190	1126	3670	251	5.17	69800	
7/18/2017	375									6520
8/2/2017		1.41	815	351	611	533	659	5.03	17700	
9/15/2017		12.18	978	309	597	323	687	5.13	21200	
10/25/2017	21.6	1.43	955	483	934	436	711	5.28	21933	6490
11/24/2017		1.56	965	497	956	546	766	5.15	38367	
3/1/2018		2.47	1260	153	2.29	380	654	4.04	29300	
3/5/2018	13.13									82600
7/11/2018	337									4350
7/31/2018		1.26	1280	215	718	449	814	4.32	33000	
8/31/2018		1.61	1400	226	663	491	942	4.53	46500	
9/7/2018		1.33	1393	330	747	464	899	4.6	35200	
10/22/2018	533	1.39	1360	368	702	515	812	4.92	52300	24000
11/26/2018		1.88	1050	415	1200	479	836	5.09	25300	
12/7/2018		6.24	1420	396	2940	763	1880	2.75	77600	
3/20/2019	403									2780
3/27/2019		3.07	1101	263	835	533	1789	3.6	53850	
4/11/2019		3.97	1009	381	1402	617	728	4.46	46500	
6/28/2019	49.06									3150
7/27/2019		0.97	1290	646	1018	412	786	4.58	39650	
8/22/2019		4.86	1550	557	1895	557	1469	4.01	84650	
9/12/2019	324									20600
9/27/2019		1.26	1130	509	1040	340	870	4.89	31300	
10/14/2019		1.1	1295	521	711	204	824	5.29	34450	
11/25/2019		2.25	1050	272	736	319	576	3.07	49550	
12/2/2019		1.48	1060	519	771	408	687	2.18	44600	
12/3/2019	11.55									616000
12/24/2019		2.7	1210	587	1520	588	718	2.19	55400	
1/10/2020	22.04	1.83	1100	488	2250	444	427	2.75	40100	4700
3/31/2020		1.19	851	557	1120	288	446	3.44	28400	
4/2/2020	47.71	0.76	922	561	1110	299	448	3.38	27900	76800
4/8/2020		2.87	821	550	1710	869	462	3.33	55400	
4/30/2020		1.22	879	592	1050	124	429	5.02	23400	
8/13/2020	1380									137000
8/19/2020		1.83	1520	729	990	821	752	5.03	53200	
9/17/2020		2.71	1430	592	1420	1110	907	4.82	60200	

Date	As (mg/kg)	Cd (mg/kg)	Cu (mg/kg)	Pb (mg/kg)	Hg (mg/kg)	Mb (mg/kg)	Ni (mg/kg)	Se (mg/kg)	Zn (mg/kg)
4/1/2016	0.034	0.0035	0.056	0.023	0.0012	0.011	0.034	0.041	0.032
7/12/2016	0.032	0.0034	1	0.23	0.011	0.066	0.28	0.039	19.7
10/5/2016	3.6	0.46	9.3	1.5	0.66	0.66	3.8	3.8	52.3
1/18/2017	3.2	0.4	37.6	2.1	0.38	2.4	6.4	3.4	121
3/8/2017									
5/4/2017	2.1	0.27	10.5	1.3	0.13	0.71	2.4	2.2	50.2
5/17/2017									
7/18/2017	1	0.083	18.6	0.58	0.16	0.71	4.5	1.1	103
8/2/2017									
9/15/2017									
10/25/2017	3.2	0.7	42	2.5	0.31	1.9	5.9	3.4	185
11/24/2017									
3/1/2018									
3/5/2018	2.1	0.27	14.1	2.1	0.12	0.94	2.5	4.3	145
7/11/2018	4.1	0.5	54.6	1.7	0.13	2.1	3.2	4.2	218
7/31/2018									
8/31/2018									
9/7/2018									
10/22/2018	0.011	0.11	0.53	0.27	0.01	0.21	0.028	0.35	1.7
11/26/2018									
12/7/2018									
3/20/2019	1.9	0.23	28.9	1.2	0.11	1.2	1.6	2.3	62.3
3/27/2019									
4/11/2019									
6/28/2019	3	0.69	618	12.4	0.28	10.8	15.7	3.6	794
7/27/2019									
8/22/2019									
9/12/2019	0.056	0.0071	0.11	0.032	0.0029	0.0077	0.081	0.07	62.1
9/27/2019									
10/14/2019									
11/25/2019									
12/2/2019									
12/3/2019	0.073	0.0096	6.5	0.2	0.013	0.17	0.25	0.12	7.8
12/24/2019									
1/10/2020	0.071	0.0064	3.9	0.044	0.003	0.08	0.15	0.063	4
3/31/2020									
4/2/2020	6.7	0.61	101	2.9	0.28	2.5	7.1	6	138
4/8/2020									
4/30/2020									
8/13/2020	2.4	0.58	263	15.6	0.79	11.5	27.8	3.2	421
8/19/2020									
9/17/2020									

Ra-226 (pCi/g)	
12/14/2017	0.046
12/18/2018	0.359
12/3/2019	2.103

**Outfall 002: Sewage Cake Sludge from Cake Pad #1**

Date	Ammonia (%)	TKN (%)	TP (%)	WEP (% of TP)	K (mg/kg)	Solids (%)
11/4/2019	0.08	0.55	0.505	11.4	0.013	12

Date	Arsenic Dry Wt	Cd (mg/kg)	Cu (mg/kg)	Pb (mg/kg)	Hg (mg/kg)	Mo (mg/kg)	Ni (mg/kg)	Se (mg/kg)	Zn (mg/kg)
11/4/2019	2.5	0.27	2.1	1.7	0.042	3.1	2.2	4.4	6.5